**IN THE SPECIFICATION**

Please replace the paragraph beginning at page 2, line 3, with the following rewritten paragraph:

C1 Therefore, in a first aspect, the present invention provides an enzyme having AHCY-type activity which includes amino acids 177 to 314 of the amino acid sequence of Figure 1 (SEQ ID NO:1), or a functional portion or functional equivalent of said enzyme.

Please replace the paragraph beginning at page 2, line 7, with the following rewritten paragraph:

C2 Conveniently, the enzyme comprises amino acids 183 to 614 or 1 to 614 of the amino acid sequence of Figure 1 (SEQ ID NO:1).

Please replace the paragraph beginning at page 2, line 19, with the following rewritten paragraph:

C3 Preferably, sequence (a) comprises nucleotides 529 to 945 of the Figure 1 (SEQ ID NO:1) sequence, nucleotides 549 to 1844 of the Figure 1 (SEQ ID NO:1) sequence, or nucleotides 1 to 1844 of the Figure 1 (SEQ ID NO:1) sequence.

Please replace the paragraph beginning at page 4, line 20, with the following rewritten paragraph:

In its first aspect, the invention therefore provides the enzyme itself. As indicated above, the enzyme of the invention has AHOY-type activity and includes amino acids 177 to 314 of the amino acid sequence of Figure 1 (SEQ ID NO:1); more preferably amino acids 183 to 614 of the amino acid sequence of Figure 1 (SEQ ID NO:1); and most preferably amino acids 1 to 614 of the amino acid sequence of Figure 1 (SEQ ID NO:1).

Please replace the paragraph beginning at page 5, line 29, with the following rewritten paragraph:

The enzyme of the invention will most conveniently be produced using recombinant techniques. Therefore, in a further embodiment, the present invention provides isolated complete or partial DNA sequences encoding, or partially encoding the enzyme of the invention. Specifically, the present invention provides isolated DNA sequences comprising nucleotides 529 to 945; 549 to 1844; or 1 to 1844 of the Figure 1 (SEQ ID NO:1) sequence. Complements of such isolated DNA sequences, reverse complements of such isolated DNA sequences and reverse sequences of such isolated DNA sequences together with

C5 CONT.

variants of such sequences, arc also provided. DNA sequences encompassed by the present invention include cDNA, genomic DNA, recombinant DNA and wholly or partially chemically synthesized DNA molecules.

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Please replace the paragraph beginning at page 9, line 18, with the following rewritten paragraph:

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**(b) Isolation of a full length cDNA for DD4b5.3**

C6

The DD4b5.3 cDNA fragment was used to probe a Lambda ZAP express (Stratagene) 20 L428 cDNA library produced in this laboratory. A near full length clone of 2.2 kb was identified (6.1222(1)) which was sequenced using a LI-COR automated sequencer (Figure 1 (SEQ ID NO:1) nucleotides 241-2563).

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Please replace the paragraph beginning at page 9, line 24, with the following rewritten paragraph:

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C7

Rapid amplification of cDNA ends (PACE) was used to identify further 5' cDNA sequence using L428 cDNA as a template. RACE products were cloned and sequenced revealing further 5' sequence. Subsequently a 2nd cDNA clone (2.11(1)b) was isolated from the L-428 library. This provided further 5' sequence (Figure 1 (SEQ ID NO:1); nucleotides 1-240) with two bases of identical overlapping sequence with the first clone.

Please replace the paragraph beginning at page 10, line 1, with the following rewritten paragraph:

D2

Translation of the cDNA sequence for DD4b5.3 revealed an open reading frame as indicated in Figure 1 (SEQ ID NO:1). Comparison of the putative DD4b5.3 amino acid sequence with the AHCY sequences of human[1], mouse (Genbank Accession No. L32836) and drosophila (Genbank Accession no. L95636) revealed expensive similarity to the AHOY sequences. (Figure 2) (SEQ ID NO:2). A further analysis of the structure is shown in Figure 3.

Please replace the paragraph beginning at page 10, line 15, with the following rewritten paragraph:

C9

ii) $Lys^{426}$ identified as critical for AHCY function is preserved in $DD4b5.3^{14}$, (Figure 2) (SEQ ID NO:2).

Please replace the paragraph beginning at page 10, line 26, with the following rewritten paragraph:

C10

The cofactor NAD binding site [17] is highly conserved ($Lys^{214}$ · $Asp^{235}$) and the critical G-G--G binding site is present in DD4b5.3. (Figure 2) (SEQ ID NO:2).